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September 30, 2003
Date

Melanie S. Jernberg
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Art Unit : 3661
Examiner : Olga Hernandez
Applicant : Erik Coelingh et al.
Appln. No. : 10/063,951
Filing Date : May 29, 2002
Confirmation No. : 2367
For : INTEGRATION OF ACTIVE ASSIST AND VEHICLE
DYNAMICS CONTROL AND METHOD

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION - 37 CFR §1.192)

1. Transmitted herewith, in triplicate, is the APPELLANT'S BRIEF in this application, with respect to the Notice of Appeal filed on July 31, 2003.

2. STATUS OF APPLICANTS

This application is on behalf of:

X other than a small entity.

___ a small entity.

A verified statement:

___ is attached.

___ was already filed.

3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 CFR §1.17(c), the fee for filing the Appeal Brief is:

___ small entity \$160.00

X other than a small entity \$320.00

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Appeal Brief fee due: \$320.00

4. **EXTENSION OF TERM**

The proceedings herein are for a patent application and the provisions of 37 CFR §1.136 apply.

(complete (a) or (b), as applicable)

(a) ☐ Applicant petitions for an extension of time under 37 CFR §1.136:

Extension (months)	Fee for other than <u>small entity</u>	Fee for <u>small entity</u>
<input type="checkbox"/> one month	\$110.00	\$55.00
<input type="checkbox"/> two months	\$410.00	\$205.00
<input type="checkbox"/> three months	\$930.00	\$465.00
<input type="checkbox"/> four months	\$1450.00	\$725.00

FEE: \$_____

If an additional extension of time is required, please consider this a petition therefor.

(check and complete the next item, if applicable)

☐ An extension for _____ months has already been secured, and the fee paid therefor of \$_____ is deducted from the total fee due for the total months of extension now requested.

Extension fee due with this request: \$_____

or

(b) ☒ Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. **TOTAL FEE DUE**

The total fee due is:

Appeal Brief fee: \$320.00

Extension fee (if any) \$0

TOTAL FEE DUE: \$320.00

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6. FEE PAYMENT

 X Attached is a check in the sum of \$320.00.

 Charge Account No. 16 2463 the sum of \$_____.

A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

 X If any additional extension and/or fee is required, this is a request therefor
and to charge Account No. 16 2463.

and/or

 X If any additional fee for claims is required, charge Account No.
16 2463.

Respectfully submitted,

ERIK COELINGH ET AL.

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APPELLANT'S BRIEF (37 CFR §1.192)

This brief is in furtherance of the Notice of Appeal, filed in this case on July 31, 2003.

The fees required under §1.17(f), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief is transmitted in triplicate. (37 CFR §1.192(a)).

This brief contains these items under the following headings, and in the order set forth below (37 CFR §1.192(c)):

- I. Real Party in Interest
- II. Related Appeals and Interferences
- III. Status of Claims
- IV. Status of Amendments
- V. Summary of Invention
- VI. Issues
- VII. Grouping of Claims
- VIII. Arguments
- IX. Conclusion

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Appendix of Claims Involved in the Appeal

The final page of this brief bears the attorney's signature.

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Appendix of Claims

Appendix of Cited Art

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TABLE OF AUTHORITY

Case Authority

Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.,

221 USPQ 481, 485 (Fed. Cir. 1984) 15, 17

In re Sun,

31 U.S.P.Q.2d 1451, 1453 (Fed. Cir. 1993) 16

In re Fine,

5 U.S.P.Q.2d 1586 (Fed. Cir. 1988) 21, 23, 26, 28

In re Merck & Co., Inc.,

231 U.S.P.Q. 375 (Fed. Cir. 1986) 21, 23, 26, 29

In re Royka,

180 U.S.P.Q. 550 (C.C.P.A. 1974) 21, 23, 26, 29

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I. Real Party in Interest

The real party in interest in this application is Ford Global Technologies, LLC, the assignment to which was recorded from Ford Motor Company at Reel 012740, Frame 0349. The inventors in this application assigned their interest to Ford Motor Company, which was recorded to Reel 012740, Frame 0347.

II. Related Appeals and Interferences

There are no related appeals or interferences pending during this application.

III. Status of Claims

Claims 1-20 are pending in this application. Claims 2-5 and 12-15 have been indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As discussed below, an Amendment After Appeal is being filed contemporaneously with this Appeal Brief wherein claims 2, 4, 5, 12, 14 and 15 were rewritten into independent form and in which claims 1 and 11 have been amended to change the phrase "control and implementation system" to "control and implementation subsystem" as introduced prior in the claims. Claims 3 and 13 depend from claims 2 and 12, respectively. Claims 1-6-11 and 16-20 are the subject of this appeal. All appealed claims are finally rejected.

IV. Status of Amendments

An Amendment After Appeal is being filed contemporaneously with this Appeal Brief. The Amendment After Appeal only rewrites claims 2, 4, 5, 12, 14 and 15 into independent form as these claims have been indicated as being in condition for allowance if rewritten into independent form and amends claims 1 and 11 to change the phrase "control and implementation system" to "control and implementation subsystem" as introduced prior in the claims.

V. Summary of the Invention

As described in the specification portion of the application (pages 1-24), and illustrated

in the related figures (Figs. 1-7), the invention recited in the finally rejected claims relates to an integration of an active assist with vehicle dynamics control.

A first aspect of the present invention is to provide a method of controlling a vehicle. The method includes providing a driver subsystem 15 and an active assist subsystem 17, receiving at least one driver input into the driver subsystem 15 from a driver 11 of the vehicle and outputting a driver output from the driver subsystem 15 to the active assist subsystem 17, with the driver output being derived from the at least one driver input. The method further includes the step of providing at least one active assist program having at least one active input, with the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input. The method also includes the steps of providing a vehicle control and implementation subsystem and inputting an intended driving demand 14 from the active assist program 17 into the vehicle control and implementation subsystem. The intended driving demand 14 is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver 11 of the vehicle does not overrule the at least one active assist program. Otherwise, the intended driving demand 14 is derived from the at least one driver input. Therefore, the vehicle control and implementation subsystem cannot determine if its instructions come from the at least one driver inputs or the at least one active assist program (see the present specification, paragraphs 16-19).

Another aspect of the present invention includes providing a vehicle control system comprising a driver subsystem 15, an active assist subsystem 17 and a vehicle control and implementation subsystem. The driver subsystem 15 receives at least one driver input from a driver 11 of the vehicle. The driver subsystem 15 includes a driver output outputting a driver output signal, with the driver output signal being derived from the at least one driver input. The active assist subsystem 17 includes an assist input receiving the driver output signal from the driver output of the driver subsystem 15. The active assist subsystem 17 also includes at least one active assist program having at least one active input. The at least one active assist

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program has an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output the at least one active input. The at least one active assist subsystem further includes an assist output. The vehicle control and implementation subsystem has a control input receiving an intended driving demand 14 from the assist output of the active assist program. The intended driving demand 14 is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program. Otherwise, the intended driving demand 14 is derived from the at least one driver input. Therefore, the vehicle control and implementation subsystem cannot determine if its instructions come from the at least one driver inputs or the at least one active assist program (see the present specification, paragraphs 16-19).

Va. Cited Prior Art

U.S. Patent No. 5,794,735 to Sigl

The Sigl 5,794,735 patent discloses a method of vehicle deceleration by engine control followed by brake control. The control system (FIG. 1) as disclosed in the Sigl '735 patent includes a first control unit 10. The first control unit 10, via an output line 12, controls a device or devices 14 for controlling the engine output of an internal combustion engine for driving the vehicle.

An operating control element 44 is connected to the first control unit 10 through a line 48. The operating control element 44 "may be a cruise control element, as well as, possibly, a control element for activating the brake." Lines 50-52 of column 2 of the '735 patent. The operating control element 44 has available the functional positions for implementing the cruise control function, such as "accelerate", "decelerate", "set", "resume" and "off". In dependence upon the function desired by the driver, the control unit 10, through adjustment of the final controlling device 14, controls the speed of the vehicle to the value specified by the driver, or accelerates or decelerates the vehicle in accordance with the function specified by the driver

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via the operating control element 44.

The first control unit 10 can include a vehicle-speed limiter having a comparable function. In use, the driver stipulates a maximum speed via the operating control element 44. The driver also controls the engine output by actuating the gas pedal. If the vehicle speed exceeds the preset value, then the vehicle-speed limiter in the first control unit 10 reduces the engine output independently of the gas pedal actuation.

A second control unit 24 is also connected to the first control unit 10 through lines 38 and 40. The second control unit 24 influences the braking power of the vehicle by intervening in at least one control element 36 of a braking device. If the first control unit 10 cannot independently limit the speed of the vehicle by reducing engine output (e.g., when the vehicle is travelling downhill), the second control unit 24 reduces the speed of the vehicle through a braking action.

U.S. Patent No. 6,098,007 to Fritz

The Fritz 6,098,007 patent discloses a control arrangement for longitudinal dynamics of a motor vehicle. The control arrangement for longitudinal dynamics of a motor vehicle, according to the Fritz '007 patent, includes a longitudinal dynamics controller 1, designed either as a speed controller or as an acceleration controller. The controller 1 is constructed with two stages, a suitable control algorithm being implemented in a first stage 2 and an inverse vehicle longitudinal dynamics model being implemented in a second stage 3 connected downstream. Connected upstream of the controller 1 is a desired value input unit 4, which forwards to the controller 1 a longitudinal dynamics desired value S_w predefined by the driver or by a higher-order distance control loop. If the controller 1 is designed as a speed controller, this desired value is a longitudinal speed; if the controller is designed as an acceleration controller, this value is a longitudinal acceleration.

Both controller stages 2, 3 are supplied, by an appropriate sensor system 5, with information Z about the instantaneous vehicle operating (driving) state. This information includes at least one of the variable's current driving speed, engine speed and transmission

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ratio of an automatic transmission present in the vehicle, as well as preferably the variable's current longitudinal acceleration and current highway slope. Based on the input variables supplied, the first controller stage 2, containing the control algorithm, delivers a controller-internal desired driving speed v_{si} and a controller-internal desired longitudinal acceleration a_{si} , which are supplied to the following controller stage 3 containing the inverse vehicle longitudinal dynamics model. Taking into account the driving state information Z supplied to it by the sensor system 5, as well as the values received from the first controller stage 2, the second controller stage 3 determines on the one hand a drive train actuating signal U_a , which is supplied to a drive train actuating element 6, and on the other hand a braking system actuating signal U_b , which is supplied to a braking system actuating element 7.

U.S. Patent No. 4,828,283 to Ishii et al.

The Ishii et al. 4,828,283 patent discloses a four wheel steer control system responsive to suspension characteristic change. According to the Ishii et al. '283 patent, a four wheel steer vehicle (FIG. 2) comprises a suspension control means, a suspension characteristic sensing means, a four wheel steer system for steering right and left rear wheels in response to a control signal, and a controlling means. The suspension control means is arranged to vary at least one suspension characteristic such as a spring constant of a suspension spring, vehicle height, roll stiffness of a stabilizer, damping force of a shock absorber, camber of a wheel, and toe-in. The suspension characteristic sensing means senses the suspension characteristic by sensing a condition of the suspension control system. The controlling means varies a ratio of a rear wheel steer angle of a steering wheel angle in accordance with the suspension characteristic sensed by the suspension characteristic sensing means.

U.S. Patent No. 5,927,421 to Fukada

The Fukada 5,927,421 patent discloses a device for controlling an engine intake throttle for turn stability of a vehicle. The device 30 for controlling intake throttle of an engine 10 of a vehicle includes a vehicle body and pairs of front and rear wheels 22 being adapted to be

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driven by the engine 10, with the intake throttle control device 30 comprising a means for estimating an instability quantity representative of turning instability of the vehicle, a means for estimating lateral acceleration of the vehicle 42, a means for estimating friction coefficient of road surface, a means for estimating a brake limit of the pair of drive wheels based upon the lateral acceleration and the road surface friction coefficient, a means for estimating an engine brake torque limit based upon the brake limit of the pair of drive wheels and the instability quantity, a means for estimating a target intake throttle value corresponding to the engine brake torque limit, and a means for attenuating intake throttling of the engine to the target intake throttle value when the intake throttling is tighter than the target intake throttle value.

When an engine of a vehicle is controlled of its engine braking intake throttling by a device of the Fukada '421 patent, if the vehicle is going to spin or drift out during a turn running thereof due to a hard engine braking, the intake throttle valve is opened from its fully closed condition by a necessary minimum amount which is continually varied to trace a critical border between stability and instability of turn behavior of the vehicle, thereby ensuring a maximum availability of engine braking during the turn of the vehicle, without sacrificing the turn stability of the vehicle.

U.S. Patent No. 5,822,709 to Fujita

The Fujita 5,822,709 patent discloses a vehicle attitude control system having a vehicle deceleration device operated before operation of a vehicle attitude control device. The vehicle attitude control system for controlling an attitude of a motor vehicle includes an attitude control device having a vehicle condition sensor for detecting at least one physical value relating to a turning condition of the vehicle, an attitude control mechanism for controlling the attitude of the vehicle, and a controller for controlling the attitude control mechanism so as to control the attitude of the vehicle on the basis of an output of the vehicle condition sensor. A deceleration control device is provided to decelerate the motor vehicle before the attitude control by the attitude control device is initiated, so that the attitude control device provides an

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intended effect of eliminating a drift-out or spinning tendency of the vehicle during turning, by operation of the attitude control device after initiation of the deceleration control. According to the Fujita '709 patent, the turning condition of the vehicle can be determined as a function of the lateral slip angle of the vehicle body and the rate of change of the lateral slip angle.

Vb. The Examiner's Rejection

Claims 1 and 11 were rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,794,735 to Sigl.

Claims 6, 7, 16 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 6,098,007 to Fritz.

Claims 8 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,927,421 to Fukada.

Claims 9 and 19 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,822,709 to Fujita.

Claims 10 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 4,828,283 to Ishii et al.

VI. Issues

The issues are:

Issue 1: Whether claims 1 and 11 are anticipated by U.S. Patent No. 5,794,735 to Sigl?

Issue 2: Whether claims 6, 7, 16 and 17 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 6,098,007 to Fritz?

Issue 3: Whether claims 8 and 18 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,927,421 to Fukada?

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Issue 4: Whether claims 9 and 19 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,822,709 to Fujita?

Issue 5: Whether claims 10 and 20 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 4,828,283 to Ishii et al.?

VII. Grouping of Claims

The claims are subdivided into the following groups for this appeal. The claims of each subdivided group are believed to be separately patentable since they define inventions of patentably different scopes and subject matter, as shown by the reasons given in the arguments below.

Claim 1 stands or falls alone (claim 1 is an independent claim).

Claims 6 and 7 stand or fall together.

Claim 8 stands or falls alone.

Claim 9 stands or falls alone.

Claim 10 stands or falls alone.

Claim 11 stands or falls alone (claim 11 is an independent claim).

Claims 16 and 17 stand or fall together.

Claim 18 stands or falls alone.

Claim 19 stands or falls alone.

Claim 20 stands or falls alone.

VIII. Arguments

Issue 1: Whether claims 1 and 11 are anticipated by U.S. Patent No. 5,794,735 to Sigl?

Argument

"Anticipation requires the presence in a single prior art reference disclosure of each

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and every element of the claimed invention, *arranged as in the claim.*" *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). In proceedings before the Patent and Trademark Office, the Examiner bears the burden of establishing a prima facie case of anticipation based upon the prior art. *In re Sun*, 31 U.S.P.Q.2d 1451, 1453 (Fed. Cir. 1993) (unpublished). The Examiner has not created a prima facie case of anticipation to reject claim 1.

Discussion

Claim 1 defines a method of controlling a vehicle including, among other things, providing a driver subsystem and an active assist subsystem, receiving at least one driver input into the driver subsystem from a driver of the vehicle and outputting a driver output from the driver subsystem to the active assist subsystem, with the driver output being derived from the at least one driver input. The method further includes the step of providing at least one active assist program having at least one active input, with the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input. The method also includes the steps of providing a vehicle control and implementation subsystem and inputting an intended driving demand from the active assist program into the vehicle control and implementation subsystem. The intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program. Otherwise, the intended driving demand is derived from the at least one driver input. Therefore, the vehicle control and implementation subsystem can not determine if instructions for the vehicle control and implementation subsystem come from the at least one driver input or the at least one active assist program.

According to the Final Office Action, the Sigl '735 patent discloses all of the features of claim 1 in the Abstract, Fig. 1, lines 30-59 of column 2, lines 60-67 of column 2 and lines 4-54 of column 3. However, the Final Office Action does not say which specific element

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disclosed by the Sigl '735 patent anticipates the elements of claim 1 beyond asserting that each paragraph of claim 1 is covered by one of the above referenced portions of the Sigl '735 patent. While Applicants have requested the Examiner to define the particular part as disclosed in the Sigl '735 patent used to reject the elements of the claims and clearly explain how the parts of the Sigl '735 patent interact as required by 37 C.F.R. §1.104(c)(2), the Examiner was not able to give a concrete example of the particular part as disclosed in the Sigl '735 patent used to reject the elements of the claims and clearly explain how the parts of the Sigl '735 patent interact. However, the Examiner did respond to this request by stating "[d]ue to the fact that the claims are so broad, any system or subsystem can be applied/read to it as described in the disclosure." Page 1 of Final Office Action mailed May 8, 2003. While the claims may be broad, the Examiner is still required to show the presence in a single prior art reference disclosure of each and every element of the claimed invention as arranged as in the claim. *Lindemann Maschinenfabrik GmbH*, supra. Moreover, Applicants submit that the Examiner is not able to provide such an example because such an example does not exist. Nevertheless, Applicants submit that the Sigl '735 patent does not disclose all of the features of claim 1.

According to the Final Office Action, the Sigl '735 patent discloses a driver subsystem, an active assist subsystem and a vehicle control and implementation subsystem in the abstract. The Sigl '735 patent only discloses a first control unit and a second control unit in the abstract. The first control unit and the second control unit are identified as elements 10 and 24 in Fig. 1. Applicants submit that the first control unit 10 and the second control unit 24 as disclosed in the Sigl '735 patent could not be a driver subsystem, an active assist subsystem and a vehicle control and implementation subsystem as claimed in claim 1. Furthermore, Applicant submits that the Sigl '735 patent does not include the driver subsystem and active assist subsystem or a vehicle control and implementation subsystem communicating with each other as defined in claim 1.

Specifically, the Sigl '735 patent does not disclose receiving at least one driver input from a driver subsystem (10 or 24) from a driver of a vehicle and outputting a driver output

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from a driver subsystem (10 or 24) to an active assist subsystem (10 or 24). The Sigl '735 patent does not disclose both of these steps. Furthermore, the Sigl '735 patent does not disclose an intended driving demand that is derived from a combination of at least one driver input and at least one active input if at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program. The Sigl '735 patent does not disclose an intended driving demand derived from a combination of the at least one driver input and the at least one active input in any setting. The device or devices 14 for controlling the engine output are only disclosed as being controlled by either the acceleration pedal or the speed limiter, not a combination of both. Finally, the Sigl '735 patent does not disclose an intended driving demand derived from a combination of at least one driver input and at least one active input if at least one active assist program is in an on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input. According to the Sigl '735 patent, "if the vehicle speed exceeds the preset value, then the vehicle-speed limiter" in the first control unit 10 "reduces the engine output independently of the gas pedal actuation." Lines 29-31 of column 3 of the Sigl '735 patent. Therefore, the output line 12 will control the device 14 by reducing engine output by either limiting the speed according to the driver or according to the operating control element, regardless of whether the driver tries to overrule the operating control element.

Accordingly, Applicants submit that claim 1 is in condition for allowance.

Claim 11 defines a vehicle control system comprising a driver subsystem, an active assist subsystem and a vehicle control and implementation subsystem. The driver subsystem receives at least one driver input from a driver of the vehicle. The driver subsystem includes a driver output outputting a driver output signal, with the driver output signal being derived from the at least one driver input. The active assist subsystem includes an assist input receiving the driver output signal from the driver output of the driver subsystem. The active assist subsystem also includes at least one active assist program having at least one active input. The at least one active assist program has an on setting wherein the at least one active

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assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output the at least one active input. The at least one active assist subsystem further includes an assist output. The vehicle control and implementation subsystem has a control input receiving an intended driving demand from the assist output of the active assist program. The intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program. Otherwise, the intended driving demand is derived from the at least one driver input. Therefore, the vehicle control and implementation subsystem cannot determine if its instructions come from the at least one driver inputs or the at least one active assist program.

According to the Final Office Action, the Sigl '735 patent discloses all of the features of claim 11 in the Abstract, Fig. 1, lines 30-59 of column 2, lines 60-67 of column 2 and lines 4-54 of column 3. However, the Final Office Action once again does not say which specific element disclosed by the Sigl '735 patent anticipates the elements of claim 11 beyond asserting that each paragraph of claim 11 is covered by one of the above referenced portions of the Sigl '735 patent. Nevertheless, Applicants submit that the Sigl '735 patent does not disclose all of the features of claim 11.

According to the Final Office Action, the Sigl '735 patent discloses a driver subsystem, an active assist subsystem and a vehicle control and implementation subsystem in the abstract. The Sigl '735 patent only discloses a first control unit and a second control unit in the abstract. The first control unit and the second control unit are identified as elements 10 and 24 in Fig. 1. Applicants submit that the first control unit 10 and the second control unit 24 as disclosed in the Sigl '735 patent could not be a driver subsystem, an active assist subsystem and a vehicle control and implementation subsystem as claimed in claim 11. Furthermore, Applicant submits that the Sigl '735 patent does not include the driver subsystem and active assist subsystem or a vehicle control and implementation subsystem communicating with each other as defined in claim 11.

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Specifically, the Sigl '735 patent does not disclose a driver subsystem (10 or 24) receiving at least one driver input from a driver of the vehicle, with the driver subsystem (10 or 24) including a driver output outputting a driver output signal derived from the at least one driver input and an active assist subsystem (10 or 24) including an assist input receiving the driver output signal from the driver output of the driver subsystem. The Sigl '735 patent does not disclose both of these elements. Furthermore, the Sigl '735 patent does not disclose an intended driving demand that is derived from a combination of at least one driver input and at least one active input if at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program. The Sigl '735 patent does not disclose an intended driving demand derived from a combination of the at least one driver input and the at least one active input in any setting. The device or devices 14 for controlling the engine output are only disclosed as being controlled by either the acceleration pedal or the speed limiter, not a combination of both. Finally, the Sigl '735 patent does not disclose an intended driving demand derived from a combination of at least one driver input and at least one active input if at least one active assist program is in an on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input. According to the Sigl '735 patent, "if the vehicle speed exceeds the preset value, then the vehicle-speed limiter" in the first control unit 10 "reduces the engine output independently of the gas pedal actuation." Lines 29-31 of column 3 of the Sigl '735 patent. Therefore, the output line 12 will control the device 14 by reducing engine output by either limiting the speed according to the driver or according to the operating control element, regardless of whether the driver tries to overrule the operating control element.

Accordingly, Applicants submit that claim 11 is in condition for allowance.

Therefore, claims 1 and 11 are allowable over the Sigl '735 patent, and the Board is requested to reverse the rejection of these claims.

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Issue 2

Whether claims 6, 7, 16 and 17 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 6,098,007 to Fritz?

Argument

In order to establish a *prima facie* case of obviousness, three criteria must be met. M.P.E.P. § 706.02(j). Firstly, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Fine*, 5 U.S.P.Q.2d 1586 (Fed. Cir. 1988). Secondly, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. *In re Royka*, 180 U.S.P.Q. 550 (C.C.P.A. 1974). The burden is on the Examiner to create a *prima facie* case of obviousness, not on the Applicant to provide reasons for patentability. See *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Examiner has not created a *prima facie* case of obviousness to reject claims 6, 7, 16 and 17.

Discussion

In regard to claim 6, the prior art of record does not disclose or suggest that the intended driving demand includes a longitudinal acceleration demand. First, claim 6 depends from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 6 defines patentable subject matter. Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, the Fritz '007 patent discloses "longitudinal acceleration" in the abstract and "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Paragraph 4 of the Final Office Action mailed May 8, 2003. However, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set

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forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fritz '007 patent would not result in something already accomplished by the Sigl '735 patent alone.

In regard to claim 7, the prior art of record does not disclose or suggest that the intended driving demand includes a longitudinal velocity demand. First, claim 7 depends from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 7 defines patentable subject matter. Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, the Fritz '007 patent discloses "longitudinal acceleration" in the abstract and "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Paragraph 4 of the Final Office Action mailed May 8, 2003. However, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fritz '007 patent would not result in something already accomplished by the Sigl '735 patent alone.

In regard to claim 16, the prior art of record does not disclose or suggest that the intended driving demand includes a longitudinal acceleration demand. First, claim 16 depends from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 16 defines patentable subject matter. Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, the Fritz '007 patent discloses "longitudinal acceleration" in the abstract and "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Paragraph 4 of the Final Office Action mailed May 8, 2003. However, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fritz '007 patent would not result in something already accomplished by the Sigl '735 patent alone.

In regard to claim 17, the prior art of record does not disclose or suggest that the intended driving demand includes a longitudinal velocity demand. First, claim 17 depends

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from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 17 defines patentable subject matter. Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, the Fritz '007 patent discloses "longitudinal acceleration" in the abstract and "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Paragraph 4 of the Final Office Action mailed May 8, 2003. However, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fritz '007 patent would not result in something already accomplished by the Sigl '735 patent alone.

Accordingly, claims 6, 7, 17 and 17 are allowable over the Sigl '735 patent in view of the Fritz '007 patent, and the Board is requested to reverse the rejection of these claims.

Issue 3

Whether claims 8 and 18 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,927,421 to Fukada?

Argument

In order to establish a *prima facie* case of obviousness, three criteria must be met. M.P.E.P. § 706.02(j). Firstly, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Fine*, 5 U.S.P.Q.2d 1586 (Fed. Cir. 1988). Secondly, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. *In re Royka*, 180 U.S.P.Q. 550 (C.C.P.A. 1974). The burden is on the Examiner to create a *prima facie* case of obviousness, not on the Applicant to provide reasons for patentability. See *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Examiner has not created a *prima facie* case of obviousness to reject claims 8 and 18.

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Discussion

In regard to claim 8, the prior art of record does not disclose or suggest that the intended driving demand includes a yaw rate demand. First, claim 8 depends from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 8 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, "Sigl does not include the wheel angle" but "Fukada teaches it in column 3, lines 48-51." Paragraph 6 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Id. Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fukada '421 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a yaw rate demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no suggestion or motivation for sending a wheel angle (or a yaw rate) demand to a device for controlling the engine output of an internal combustion engine because the device cannot control the wheel angle (or yaw rate) as disclosed.

Thirdly, the prior art of record does not disclose or suggest all of the features of claim 8. Notably, claim 8 requires that the intended driving demand includes a yaw rate demand.

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However, the Final Office Action rejects claim 8 by modifying the Sigl '735 patent by adding a wheel angle demand. Therefore, the Examiner has not met her burden of providing a prima facie case for rejecting claim 8 as being obvious.

Accordingly, claim 8 is in condition for allowance.

In regard to claim 18, the prior art of record does not disclose or suggest that the intended driving demand includes a yaw rate demand. First, claim 18 depends from claim 11, and since claim 11 defines patentable subject matter as discussed above, claim 18 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, "Sigl does not include the wheel angle" but "Fukada teaches it in column 3, lines 48-51." Paragraph 6 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Id. Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fukada '421 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a yaw rate demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no suggestion or motivation for sending a wheel angle (or a yaw rate) demand to a device for controlling the engine output of an internal combustion engine because the device cannot control the wheel angle (or yaw rate) as disclosed.

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Thirdly, the prior art of record does not disclose or suggest all of the features of claim 18. Notably, claim 18 requires that the intended driving demand includes a yaw rate demand. However, the Final Office Action rejects claim 8 by modifying the Sigl '735 patent by adding a wheel angle demand. Therefore, the Examiner has not met her burden of providing a *prima facie* case for rejecting claim 18 as being obvious.

Accordingly, claim 18 is in condition for allowance.

Accordingly, claims 8 and 18 are allowable over the Sigl '735 patent in view of the Fukada'421 patent, and the Board is requested to reverse the rejection of these claims.

Issue 4

Whether claims 9 and 19 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 5,822,709 to Fujita?

Argument

In order to establish a *prima facie* case of obviousness, three criteria must be met. M.P.E.P. § 706.02(j). Firstly, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Fine*, 5 U.S.P.Q.2d 1586 (Fed. Cir. 1988). Secondly, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. *In re Royka*, 180 U.S.P.Q. 550 (C.C.P.A. 1974). The burden is on the Examiner to create a *prima facie* case of obviousness, not on the Applicant to provide reasons for patentability. See *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Examiner has not created a *prima facie* case of obviousness to reject claims 9 and 19.

Discussion

In regard to claim 9, the prior art of record does not disclose or suggest that the intended driving demand includes a slip angle demand. First, claim 9 depends from claim 1,

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and since claim 1 defines patentable subject matter as discussed above, claim 9 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, "Sigl does not include the slip angle" but "Fujita teaches it in column 12, lines 55-58." Paragraph 7 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Id. Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fujita '709 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a slip angle demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no suggestion or motivation for sending a slip angle demand to a device for controlling the engine output of an internal combustion engine because device cannot control the slip angle as disclosed.

Accordingly, claim 9 is in condition for allowance.

In regard to claim 19, the prior art of record does not disclose or suggest that the intended driving demand includes a slip angle demand. First, claim 19 depends from claim 11, and since claim 11 defines patentable subject matter as discussed above, claim 19 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference

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teachings. According to the Final Office Action, "Sigl does not include the slip angle" but "Fujita teaches it in column 12, lines 55-58." Paragraph 7 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Id. Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Fujita '709 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a slip angle demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no suggestion or motivation for sending a slip angle demand to a device for controlling the engine output of an internal combustion engine because the device cannot control the slip angle as disclosed.

Accordingly, claim 19 is in condition for allowance.

Therefore, claims 9 and 19 are allowable over the Sigl '735 patent in view of the Fujita '709 patent, and the Board is requested to reverse the rejection of these claims.

Issue 5

Whether claims 10 and 20 are unpatentable over U.S. Patent No. 5,794,735 to Sigl in view of U.S. Patent No. 4,828,283 to Ishii et al.?

Argument

In order to establish a *prima facie* case of obviousness, three criteria must be met. M.P.E.P. § 706.02(j). Firstly, there must be some suggestion or motivation, either in the

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references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Fine*, 5 U.S.P.Q.2d 1586 (Fed. Cir. 1988). Secondly, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 231 U.S.P.Q. 375 (Fed. Cir. 1986). Thirdly, the prior art reference (or references) must teach or suggest all the claim limitations. *In re Royka*, 180 U.S.P.Q. 550 (C.C.P.A. 1974). The burden is on the Examiner to create a prima facie case of obviousness, not on the Applicant to provide reasons for patentability. See *In re Fine*, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Examiner has not created a prima facie case of obviousness to reject claims 10 and 20.

Discussion

In regard to claim 10, the prior art of record does not disclose or suggest that the intended driving demand includes a wheel angle demand. First, claim 10 depends from claim 1, and since claim 1 defines patentable subject matter as discussed above, claim 10 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, "Sigl does not include the wheel angle" but "Ishii teaches it in column 2, lines 45-50." Paragraph 5 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." *Id.* Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Ishii et al. '283 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a wheel angle demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent

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disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no suggestion or motivation for sending a wheel angle demand to a device for controlling the engine output of an internal combustion engine because the device cannot control the wheel angle as disclosed.

Accordingly, claim 10 is in condition for allowance.

In regard to claim 20, the prior art of record does not disclose or suggest that the intended driving demand includes a wheel angle demand. First, claim 20 depends from claim 11, and since claim 11 defines patentable subject matter as discussed above, claim 20 defines patentable subject matter.

Second, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the reference teachings. According to the Final Office Action, "Sigl does not include the wheel angle" but "Ishii teaches it in column 2, lines 45-50." Paragraph 5 of the Final Office Action mailed May 8, 2003. Furthermore, according to the Final Office Action, "it would have been obvious to one of ordinary skill in the art to combine the aforementioned references in order to control the motor vehicle." Id. Firstly, the invention disclosed in the Sigl '735 patent already controls a motor vehicle and therefore the motivation set forth in the Final Office Action for combining the teachings of the Sigl '735 patent and the Ishii et al. '283 patent would not result in something already accomplished by the Sigl '735 patent alone. Secondly, there is no suggestion or motivation for having an intended driving demand that includes a wheel angle demand. Accordingly to the Final Office Action, the Sigl '735 patent discloses inputting an intended driving demand from the active assist program into the vehicle control implementation subsystem in lines 60-67 of column 2. Lines 60-67 of column 2 of the Sigl '735 patent disclose that the control unit 10 "generates a trigger signal for the final controlling element 14, which influences the power output." The element 14 as disclosed by the Sigl '735 patent is a device for controlling the engine output of an internal combustion engine. There is no

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suggestion or motivation for sending a wheel angle demand to a device for controlling the engine output of an internal combustion engine because device cannot control the wheel angle as disclosed.

Accordingly, claim 20 is in condition for allowance.

Accordingly, claims 10 and 20 are allowable over the Sigl '735 patent in view of the Ishii et al. '283 patent, and the Board is requested to reverse the rejection of these claims.

IX. Conclusion

Each appealed claim recites features that are not disclosed by any of the cited references and it would not have been obvious to modify the cited references to include the recited features of the appealed claims. The references upon which the Examiner relies in the Examiner's rejections of the finally rejected claims does not disclose or suggest driver subsystem and an active assist subsystem as claimed or an intended driving demand derived from a combination of at least one driver input and at least one active input if at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input. Applicant's invention resolves problems and inconveniences experienced in the prior art, and therefore represents a significant advancement in the art. Applicant earnestly requests that the Examiner's final rejection of claims 1, 6-11 and 16-20, inclusive, be reversed, and that the application be passed to issuance forthwith.

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Respectfully submitted,

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9/30/03
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Appendix of Claims (37 CFR §1.192(c)(9))

1. A method of controlling a vehicle comprising:
 - providing a driver subsystem and an active assist subsystem;
 - receiving at least one driver input into the driver subsystem from a driver of the vehicle;
 - outputting a driver output from the driver subsystem to the active assist subsystem, the driver output being derived from the at least one driver input;
 - providing at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input;
 - providing a vehicle control and implementation subsystem; and
 - inputting an intended driving demand from the active assist program into the vehicle control and implementation subsystem;
 - wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation subsystem come from the at least one driver input or the at least one active assist program.
2. A method of controlling a vehicle comprising:
 - providing a driver subsystem and an active assist subsystem;
 - receiving at least one driver input into the driver subsystem from a driver of the vehicle;
 - outputting a driver output from the driver subsystem to the active assist subsystem, the driver output being derived from the at least one driver input;

providing at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input;

providing a vehicle control and implementation subsystem;

inputting an intended driving demand from the active assist program into the vehicle control and implementation subsystem;

inputting environmental data into the active assist subsystem.

3. The method of controlling a vehicle of claim 2, wherein:

the at least one active input is derived from the environmental data.

4. A method of controlling a vehicle comprising:

providing a driver subsystem and an active assist subsystem;

receiving at least one driver input into the driver subsystem from a driver of the vehicle;

outputting a driver output from the driver subsystem to the active assist subsystem, the driver output being derived from the at least one driver input;

providing at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input;

providing a vehicle control and implementation subsystem; and

inputting an intended driving demand from the active assist program into the vehicle control and implementation subsystem;

wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist

program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation subsystem come from the at least one driver input or the at least one active assist program; and

wherein the at least one active assist program includes an adaptive cruise control program.

5. A method of controlling a vehicle comprising:

providing a driver subsystem and an active assist subsystem;

receiving at least one driver input into the driver subsystem from a driver of the vehicle;

outputting a driver output from the driver subsystem to the active assist subsystem, the driver output being derived from the at least one driver input;

providing at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input;

providing a vehicle control and implementation subsystem; and

inputting an intended driving demand from the active assist program into the vehicle control and implementation subsystem;

wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation subsystem come from the at least one driver input or the at least one active assist program; and

wherein the at least one active assist program includes a collision mitigation program.

6. The method of controlling a vehicle of claim 1, wherein:
the intended driving demand includes a longitudinal acceleration demand.
7. The method of controlling a vehicle of claim 1, wherein:
the intended driving demand includes a longitudinal velocity demand.
8. The method of controlling a vehicle of claim 1, wherein:
the intended driving demand includes a yaw rate demand.
9. The method of controlling a vehicle of claim 1, wherein:
the intended driving demand includes a slip angle demand.
10. The method of controlling a vehicle of claim 1, wherein:
the intended driving demand includes a wheel angle demand.
11. A vehicle control system comprising:
a driver subsystem receiving at least one driver input from a driver of the vehicle, the driver subsystem including a driver output outputting a driver output signal, the driver output signal being derived from the at least one driver input;
an active assist subsystem including an assist input receiving the driver output signal from the driver output of the driver subsystem, the active assist subsystem including at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input, the at least one active assist subsystem including an assist output;
a vehicle control and implementation subsystem having a control input receiving an intended driving demand from the assist output of the active assist program;

12. A vehicle control system comprising:

a driver subsystem receiving at least one driver input from a driver of the vehicle, the driver subsystem including a driver output outputting a driver output signal, the driver output signal being derived from the at least one driver input;

an active assist subsystem including an assist input receiving the driver output signal from the driver output of the driver subsystem, the active assist subsystem including at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input, the at least one active assist subsystem including an assist output;

a vehicle control and implementation subsystem having a control input receiving an intended driving demand from the assist output of the active assist program;

wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation come from the at least one driver input or the at least one active assist program; and

wherein the active assist subsystem receives environmental data.

13. The vehicle control system of claim 12, wherein:

the at least one active input is derived from the environmental data.

14. A vehicle control system comprising:

a driver subsystem receiving at least one driver input from a driver of the vehicle, the driver subsystem including a driver output outputting a driver output signal, the driver output

signal being derived from the at least one driver input;

an active assist subsystem including an assist input receiving the driver output signal from the driver output of the driver subsystem, the active assist subsystem including at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least one active input, the at least one active assist subsystem including an assist output;

a vehicle control and implementation subsystem having a control input receiving an intended driving demand from the assist output of the active assist program;

wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation come from the at least one driver input or the at least one active assist program; and

wherein the at least one active assist program includes an adaptive cruise control program.

15. A vehicle control system comprising:

a driver subsystem receiving at least one driver input from a driver of the vehicle, the driver subsystem including a driver output outputting a driver output signal, the driver output signal being derived from the at least one driver input;

an active assist subsystem including an assist input receiving the driver output signal from the driver output of the driver subsystem, the active assist subsystem including at least one active assist program having at least one active input, the at least one active assist program having an on setting wherein the at least one active assist program outputs at least one active input and an off setting wherein the at least one active assist program does not output at least

one active input, the at least one active assist subsystem including an assist output;

a vehicle control and implementation subsystem having a control input receiving an intended driving demand from the assist output of the active assist program;

wherein the intended driving demand is derived from a combination of the at least one driver input and the at least one active input if the at least one active assist program is in the on setting and if the driver of the vehicle does not overrule the at least one active assist program, otherwise the intended driving demand is derived from the at least one driver input, such that the vehicle control and implementation subsystem cannot determine if instructions for the vehicle control and implementation come from the at least one driver input or the at least one active assist program; and

wherein the at least one active assist program includes a collision mitigation program.

16. The vehicle control system of claim 11, wherein:
the intended driving demand includes a longitudinal acceleration demand.
17. The vehicle control system of claim 11, wherein:
the intended driving demand includes a longitudinal velocity demand.
18. The vehicle control system of claim 11, wherein:
the intended driving demand includes a yaw rate demand.
19. The vehicle control system of claim 11, wherein:
the intended driving demand includes a slip angle demand.
20. The vehicle control system of claim 11, wherein:
the intended driving demand includes a wheel angle demand.